

REMARKS/ARGUMENTS

Claims 41, 43, 44, 48, 51, 52, 56 and 75-86 are pending in this application and are presented for examination. Claims 41, 76-77 and 83-85 have been amended. No new matter has been entered with the foregoing amendments. Reconsideration is respectfully requested.

I. FORMALITIES

Claims 41, 76-77 and 83-85 have been amended. Claim 41 has been amended to recite that the nucleic acid molecule consists of SEQ ID NO:3 (or its complement), or consists of SEQ ID NO:5 (or its complement). Claim 41 has been further amended to recite the nucleic acid molecule comprising SEQ ID NO:1 (or its complement), wherein the nucleic acid molecule extends at a maximum 30,000 nucleotides over the 5' and/or 3' end of the nucleic acid molecule of SEQ ID NO:1. Support for this amendment is found, for example, in the paragraph bridging pages 5 and 6.

Claim 76 further limits claim 41 by claiming the nucleic acid molecule consisting of SEQ ID NO:3 or consisting of SEQ ID NO:5. Claim 77 has been amended to recite the features of claim 78, and claim 78 has been canceled.

Claims 83-85 have been recast as independent claims. In view of the foregoing support, Applicants respectfully request that the Examiner enter the amendments.

II. RESTRICTION REQUIREMENT

The Examiner withdrew the restriction requirement dated October 18, 2007. The Examiner then stated that the restriction requirement of October 11, 2006 regarding SEQ ID NO:3 is maintained. However, the aforementioned restriction requirement with respect to SEQ ID NO:3 was changed to a species election. Examiner Cho stated on page 2, of the Office Action dated January 29, 2007:

It is noted that although SEQ ID NOS: 3 and 5 were restricted from each other as drawn to different inventions (not different species) in the previous restriction requirement, because the sequences only differ by a

single polymorphism, the restriction requirement between SEQ ID NOS: 1 and 3 has been changed to election of species. [Emphasis added.]

Applicants believe that the amendments herein and the remarks below place the application in condition for allowance. As such, Applicants request that SEQ ID NO:3 be rejoined and examined on the merits.

III. OBJECTIONS

A. First Objection

Claims 56, 75 and 77-82 were objected to as allegedly being improperly dependent claims. To the extent the rejection is applicable to the amended set of claims, Applicants respectfully traverse the rejection.

Applicants have amended claim 76 to recite --consisting of-- in lieu of "comprising" as the transition phrase. Applicants believe that this amendment addresses the Examiner's concern. As such, Applicants request that the Examiner withdraw the rejection.

B. Second Objection

Claims 83-85 were objected to as failing to limit the subject matter of a previous claim. To the extent the rejection is applicable to the amended set of claims, Applicants respectfully traverse the rejection.

Applicants have recast claims 83-85 as independent claims. Accordingly, Applicants request that the Examiner withdraw the rejection.

C. Third Objection

Claims 41, 43-44, 48, 51-52, 56 and 75-86 were objected to as allegedly containing non-elected subject matter. However, as explained above, SEQ ID NO:3 is a withdrawn species, and not subject to restriction. Now that the application is in condition for allowance, Applicants request that this species be rejoined.

IV. REJECTION UNDER 35 U.S.C. § 102(b)

The Examiner rejected claims 41, 43-44, 48, 56, 77-79 and 83 under 35 U.S.C. § 102(b) as allegedly being anticipated by Birren *et al.*, and with regard to claims 51-52 as further evidenced by Osoegawa *et al.* To the extent the rejection is applicable to the amended set of claims, Applicants respectfully traverse the rejection.

Applicants have amended claim 41 to recite that the a) nucleic acid molecule consists of SEQ ID NO:5 (or its complement), which has a defined length, *i.e.*, 3230 bases.

With respect to the b) nucleic acid molecule of SEQ ID NO:1, its length has been further defined and this molecule can be a maximum of 60,180 bases. Birren *et al.* disclose a nucleic acid molecule of 177,067 bases. As such, Birren *et al.* in no way anticipate the present claims. In view of the amendment to the claims, Applicants respectfully request that the Examiner withdraw the rejection.

V. FIRST REJECTION UNDER 35 U.S.C. § 103(a)

The Examiner rejected claims 75 and 86 under 35 U.S.C. § 103(a) as allegedly being obvious over Birren *et al.*, in view of *The Scientist* 1995, 9:20 ("Ahern *et al.*"). To the extent the rejection is applicable to the amended set of claims, Applicants respectfully traverse the rejection.

A claim is considered obvious "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains" (35 U.S.C. § 103(a)). The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1395-97 (2007) identified a number of rationales to support a conclusion of obviousness which are consistent with the proper "functional approach" to the determination of obviousness as laid down in *Graham*. The key to supporting any rejection under 35 U.S.C. § 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. § 103 should be made explicit.

One of the rationales addressed by the court in *KSR* supports a finding of obviousness when the prior art reference (or combination of references) (1) teaches or suggests the claim elements; (2) provides some suggestion or motivation to combine the references; and (3) provides a reasonable expectation of success (MPEP § 2143).

Claim 76 has been amended to recite that the nucleic acid consists of SEQ ID NO:3 or SEQ ID NO:5. Claim 75 recites a kit comprising a nucleic acid molecule of claim 77, which claim is dependent on claim 76.

The primary reference of Birren *et al.* simply discloses a gene having 177,067 bases without any disclosed utility. Using hindsight, the Examiner combines Birren *et al.* with Ahern, which apparently teaches reagents in kit form. However, since Birren *et al.* discloses absolutely no utility and although Ahern apparently teach reagents in kit form, there is no rational underpinning between the references to support a legal conclusion of obviousness. (*KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (U.S. 2007)).

In view of the amendment to the claims and remarks above, Applicants respectfully request that the Examiner withdraw the rejection.

VI. SECOND REJECTION UNDER 35 U.S.C. § 103(a)

The Examiner rejected claims 79-82 and 84-85 as allegedly being obvious over Birren *et al.*, in view of U.S. Patent No. 6,124,092 ("O'Neill *et al.*"). To the extent that the rejection is applicable to the amended set of claims, Applicants respectfully traverse the rejection.

The Examiner admits that Birren *et al.* do not teach molecules of the length set forth in claim 79, or labeled as in claims 80-82. Further, the Examiner admits that Birren *et al.* do not teach a primer or primer pair as in claims 84-85. However, using hindsight, the Examiner states that O'Neill *et al.* disclose a rapid method for generating and sequencing amplification products, the use of primers capable of specifically hybridizing to target sequences and the use of primers that are fluorescently labeled.

The primary reference of Birren *et al.*, simply discloses a gene having 177,067 bases without any disclosed utility. Using hindsight reconstruction, the Examiner combines Birren *et al.* with O'Neil *et al.*, which apparently teaches sequence amplification, the use of primers, and the use of primers that are fluorescently labeled.

However, since Birren *et al.* teach absolutely no utility and although O'Neil *et al.* apparently teach sequence amplification and the use of primers, there is no rational underpinning between the references to support a legal conclusion of obviousness. (*KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (U.S. 2007)).


In view of the amendment to the claims and remarks above, Applicants respectfully request that the Examiner withdraw the rejection.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-472-5000.

Respectfully submitted,


Joseph R. Snyder
Reg. No. 39,381

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 925-472-5000
Fax: 415-576-0300
Attachments
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